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10/563,879	01/09/2006	Masayoshi Kobayashi	Q92553	7294

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SUGHRUE MION, PLLC
2100 PENNSYLVANIA AVENUE, N.W.
SUITE 800
WASHINGTON, DC 20037

EXAMINER	
ANWAR, MOHAMMAD S	
ART UNIT	**PAPER NUMBER**
2416	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/563,879	KOBAYASHI, MASAYOSHI	
	Examiner	Art Unit	
	MOHAMMAD ANWAR	2416	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed 2/26/09 have been fully considered but they are not persuasive. Please see response below:

In regard to applicant arguments, Jinzaki et al. neither teaches nor suggests "terminating, at the transport layer relay device, a first transport layer connection.., and a second transport layer connection," as recited in claim 1. This is because Jinzaki et al. does not disclose terminating transport layer connections (see Jinzaki et al. column 2 lines 60-64, Figure 64, UDP is adapted transport layer protocol and figure 64 shows termination of dv ch1 and dv ch2 to relay transmitting device 1201 adapter).

In regard to applicant arguments, Jinzaki et al. neither teaches nor suggests "relaying data flow of said first transport layer connection.., as a first relay connection and data flow of said second transport layer connection.., as a second relay connection," as recited in claim 1 (see Jinzaki et al. Figures 35 and 69 which shows two relay device connection).

In regard to applicant arguments, Jinzaki et al. neither teaches nor suggests "determining a total transmission rate of said first and second relay connections based on the first and second transmission rates (see Jinzaki et al. reference mentions calculating transmission rate in column 28 lines 38-43)

In regards to applicant arguments, Jinzaki et al. neither teaches nor suggests "allocating the total transmission rate among each of said first and second relay

connections (see column 69 lines 40-44, column 35 lines 1-7, the band is divided or allocated, and the transmission rate is dynamically modified in the relay devices)

2. All claim objections, 112 2nd rejections and 35 U.S.C 101 rejections are withdrawn.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-3, 6-10, 13-16, 20-21, 29-31 and 33 are rejected under 35 U.S.C. 102(e) as being unpatentable by Jinzaki et al. (U.S. Patent No. 7,133,407).

For claims 1 and 15, Jinzaki et al. disclose terminating, at the transport layer relay device, first transport layer connection between a first source terminal and a first destination terminal at a first transmission rate in the transport layer (see Figure 69, transmit video channel 1, column 35 lines 1-7, relay device dynamically controls bandwidth) and a second transport layer connection between a second source terminal and a second destination terminal at a second transmission rate in the transport layer (see Figure 69, transmit video channel 2, column 35 lines 1-7, relay device dynamically controls bandwidth); relaying data flow said first transport layer connection to said first

destination terminal as a first relay connection and data flow of said second transport layer connection to said second destination terminal as a second relay connection to respectively separate said first and second_transport layer connections (see Figure 69, separate relay connections) ; determining a wherein the total transmission rate of said first and second relay_connections based on the first and second transmission (see column 34 lines 61-67 and column 35 lines 1-7) and allocating the total transmission rate among each of said first and second_relay connections (see column 35 lines 1-7, dynamically allocates transmission rate); wherein the first source terminal, the second source terminal, the first destination terminal and the second destination terminal are different from each other (see Figure 69).

For claims 2, 3, 9, 10, 16 and 17, Jinzaki et al. disclose wherein said total transmission rate is determined in accordance with the number of transport layer connections that are being relayed (column 69 lines 45-58; column 28 lines 65-67 and column 29 lines 1-5); congestion conditions of a network through which the relay connections pass (see column 69 lines 62-65).

For claims 6, 7, 13, 14, 20 and 21, Jinzaki et al. disclose further comprising estimating, by means of measurement packets (see column 69 lines 45-64); congestion conditions of a network through which the first and second relay connections pass, wherein said congestion conditions are also used to determine said total transmission rate (see column 69 lines 63-65).

For claims 8 and 33, Jinzaki et al. disclose first terminal-side connection termination unit that terminates first transport layer connection between a first source

terminal and a first destination terminal in a transport layer (see Figure 69, transmit video ch1), a second terminal-side connection termination unit that terminates a second transport layer connection between a second source terminal and a second destination terminal in a transport layer (see Figure 69, transmit video channel 2) and a first interdevice connection termination unit that terminates first transport layer connections with a first transport layer relay devices that relays transport layer data between said first terminal-side connection termination units and said first interdevice connection termination units (see Figure 31 (611,713)); a second interdevice connection termination unit that terminates a second transport layer connection between a second transport layer device that relays transport layer data between said second terminal-side connection termination unit and said second interdevice termination unit (see Figure 31, 611,712); a transmission rate control unit that controls transmission rates of first and second interdevice connection termination units (see Figure 20 (252), see also column 28 lines 38-43), divides said total transmission rate, also see column 7 lines 49-57), wherein the transmission rate control units determines a total transmission rate of all interdevice connection termination units allocates said total transmission rate among said first and second interdevice connection termination units (see column 35 lines 1-7, dynamically allocates transmission rate), and reports transmission rate that have been allotted to said first and second interdevice connection termination units, said first interdevice connection termination unit relaying said first transport layer connection to said first destination terminal as a first relay connection based on said allocated total transmission rate (see Figure 20 (413); the figure shows the transmission rate is

computed by the transmission control unit 252 and reported to the interdevice Internet adapter); and said second interdevice connection termination unit relaying said second transport layer connection to said second destination terminal as a second relay connection based on said allocated total transmission rate (see column 17 lines 61-67 and column 18 lines 1-8), and wherein the first source terminal, the second source terminal, the first destination terminal and the second destination terminal are different from each other (see Figure 69, video ch1 and video ch 2).

For claim 29, Jinzaki et al. disclose wherein, when establishing a new transport layer connection between a new source terminal and a new destination terminal, said total transmission rate is determined (column 69 lines 45-58; column 28 lines 65-67 and column 29 lines 1-5), said total transmission rate is allocated to each relay connection (see column 7 lines 49-57; column 69 lines 40-44) and the allotted transmission rates are reported to a partner transport layer device in establishing said new transport layer connection (see column 34 lines 17-18).

For claim 30, Jinzaki et al. disclose wherein when establishing a transport layer connection between a new source terminal and a new destination terminal, an initial transmission rate (see column 34 lines 13-17) is reported to the destination from said transmission rate control unit (see column 34 lines 17-18).

For claim 31, Jinzaki et al. disclose wherein when establishing new transport layer connection between a new source terminal and a new destination terminal, said total transmission rate is allocated and the allocated transmission rate are reported to a

partner transport layer device(see column 69 line 37) in establishing a new transport layer protocol (see column 69 lines 39-44).

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 5, 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinzaki et al. in view of Yao et al. (U.S. Patent No. 6,097,697).

For claims 5, 12 and 19, Jinzaki et al. disclose wherein said total transmission rate is allocated transmission rates of each of said first and second relay connections depending on application information in said data flow of each of said first and second relay connections (see column 69 lines 40-44). Jinzaki et al. disclose all the subject matter but fails to mention depending on application information. However, Yao et al from a similar field of endeavor disclose depending on application information (see

column 4 lines 9-10). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Yao et al. congestion scheme into Jinzaki et al. transport layer relay transmission scheme. The method can be implemented in the transmission relay unit. The motivation of doing this is to control congestion within a network (see column 2 lines 61-62).

8. Claims 4, 11 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinzaki et al. in view of Rochberger et al. (U.S. Patent No. 6,097,697).

For claims 4, 11 and 18, Jinzaki et al. disclose wherein said total transmission rate is determined in accordance with the number of transport layer connections that are being relayed (see column 28 lines 38-43),and congestion conditions of a network through which the relay connections pass (see column 69 lines 62-65). Jinzaki et al. disclose all the subject matter but fails to mention such that effective transmission rates are attained for relay connections, wherein transmission rates for traffic other than relay connections that shares bottleneck with the relay connections are allocated differently than transmission rates allocated to the relay connections. However, Rochberger et al. from a similar field of endeavor disclose such that effective transmission rates are attained for relay connections, wherein transmission rates for traffic other than relay connections that shares bottleneck with the relay connections are allocated differently than transmission rates allocated to the relay connections (see column 10 lines 19-26). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Rochberger et al. priority scheme into Yao et al. congestion control

scheme. The method can be implemented by dynamically assigning priority to individual packets within a data stream. The motivation of doing this is to dynamically prioritizing packets in a network entity according to their sensitivity to time delays (see column 7 lines 40-43).

1. Claims 22-24, 27-28, 32 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinzaki et al. in view of Trebes, Jr. (U.S.PGPub No. 20020093980).

For claims 22 and 34, Jinzaki et al. disclose a plurality of terminal-side connection termination units that terminate transport layer connections between a plurality of source terminals and destination terminals in the transport layer (see Figure 31 (703A, 703B, 704A, 704B)); an interdevice connection termination unit that terminates a plurality of transport layer connections with a plurality of transport layer relay devices that relay transport layer data between said plurality of terminal-side connection termination units and said interdevice connection termination unit (see Figure 31 (611,713), Figure 73); a transmission rate control unit that determines a total transmission rate of the plurality of relay connections based on the total transmission rate (see column 34 lines 13-18; Figure 20 (413); the figure shows the transmission rate is computed by the transmission control unit 252 and reported to the interdevice Internet adapter)); wherein said interdevice connection termination unit transmits said plurality of relay connections to said plurality of destination terminals in accordance with the total transmission rate (see column 69 lines 40-44); wherein the transmission rate control unit determines the total transmission rate of said interdevice connection termination unit and reports the allocation of rates among the plurality of relay connections to said

mux-demux unit (see column 69 lines 36-44). Jinzaki et al. disclose all the subject matter but fails to mention MUX-DEMUX unit. However, Trebes, JR. from a similar field of endeavor discloses MUX –DEMUX (see paragraph 436 lines 1-6). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Trebes, JR. MUX_DEMUX scheme into Jinzaki et al. congestion control scheme. The method can be implemented in the hardware circuitry. The motivation of doing this is to multiplex and demultiplex group of data into a single stream (see paragraph 436 lines 2-3).

For claim 23, Jinzaki et al. disclose wherein said total transmission rate is determined in accordance with the number of transport layer connections that are being relayed (see column 28 lines 38-43; column 35 lines 1-7) and congestion information of connections that are reported from the interdevice connection termination unit (see column 69 lines 59-64).

For Claim 24, Jinzaki et al. disclose wherein said total transmission rate is determined in accordance with the number of transport layer connections that are being relayed and the congestion information of connections reported from the interdevice connection termination unit such that effective transmission rates for each of the plurality of relay connections attains a desired rate (column 69 lines 45-65).

For claims 27, 28, Jinzaki et al. disclose a network condition estimation unit by means of measurement packets, estimates congestion conditions of a network through which plurality of relay connections pass, wherein said transmission rate control unit

uses congestion conditions estimated by said network condition estimation unit to determine said total transmission rate (see column 69 lines 45-65).

For claim 32, Jinzaki et al. disclose wherein, when establishing a transport layer connection between a new source terminal and a new destination terminal, an initial transmission rate (see column 34 lines 13-17) that is reported from said transmission rate control unit is reported to the new destination terminal (see column 34 lines 17-18).

2. Claims 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jinzaki et al. in view of Trebes Jr. as applied to claim 22 above, and further in view of Rochberger et al. (U.S. Patent No. 6,760,309).

For claim 25, Jinzaki et al. disclose wherein said transmission rate control unit determines a total transmission rate in accordance with the number of transport layer connections that are being relayed and the congestion information of connections that from each interdevice connection termination unit (see column 69 lines 45-65). Jinzaki et al. and Trebes Jr. disclose all the subject matter but fails to mention such that effective rates for each of the plurality of relay connections are attained and wherein transmission rates for traffic other than relay connections that share bottlenecks with the plurality of relay connections are allocated differently than transmission rates allocated to the relay connections. However, Rochberger et al. from a similar field of endeavor disclose such that effective rates for each of the plurality of relay connections are attained and wherein transmission rates for traffic other than relay connections that share bottlenecks with the plurality of relay connections are allocated differently than

transmission rates allocated to the relay connections (see column 10 lines 19-26). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Rochberger et al. priority scheme into Yao et al. and Trebes Jr. congestion control scheme. The method can be implemented by dynamically assigning priority to individual packets within a data stream. The motivation of doing this is to dynamically prioritizing packets in a network entity according to their sensitivity to time delays (see column 7 lines 40-43).

3. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Jinzaki et al. in view of Trebes, Jr. as applied to claim 22 above, and further in view of Yao et al.

For claim 26, Jinzaki et al. disclose all the subject matter but fails to mention further comprising an application information analysis unit analyzes application information in transport layer data when transport layer data are transferred between each of said terminal-side connection termination units and said MUX-DEMUX unit; wherein said transmission rate control unit allocates said total transmission rate among the transmission rates of each of the plurality of relay connections and reports the allocated transmission rates to said MUX -DEMUX unit based on the application information analyzed by said application information analysis unit. However, Trebes, Jr. discloses MUX-DEMUX unit; wherein said transmission rate control unit allocates said total transmission rate among the transmission rates of each of the plurality of relay connections and reports the allocated transmission rates to said MUX -DEMUX unit based on the application information analyzed by said application information analysis

unit (see paragraph 436 lines 1-6). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Trebes, JR. MUX_DEMUX scheme into Jinzaki et al. congestion control scheme. The method can be implemented in the hardware circuitry. The motivation of doing this is to multiplex and demultiplex group of data into a single stream (see paragraph 436 lines 2-3). Jinzaki et al. and Trebes, Jr. disclose all the subject matter but fails to mention comprising an application information analysis unit analyzes application information in transport layer data when transport layer data are transferred between each of said terminal-side connection termination units. However, Yao et al. from a similar field of endeavor disclose comprising an application information analysis unit analyzes application information in transport layer data when transport layer data are transferred between each of said terminal-side connection termination units (see column 4 lines 9-10). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Yao et al. application analysis into Jinzaki et al. and Trebes, Jr. transport layer relay transmission scheme. The method can be implemented in the transmission relay unit. The motivation of doing this is to control congestion within a network (see column 2 lines 61-62).

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD ANWAR whose telephone number is (571)270-5641. The examiner can normally be reached on Monday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick W. Ferris can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MOHAMMAD ANWAR
Examiner
Art Unit 2416

/M. A./
Examiner, Art Unit 2416

/Derrick W Ferris/
Supervisory Patent Examiner, Art Unit 2416